Remarks

Upon entry of the foregoing amendment, claims 1-47 are pending in the application. The claims have been amended solely to remove multiple dependencies. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Conclusion

It is respectfully believed that this application is now in condition for substantive examination. Early notice to this effect is respectfully requested.

Respectfully submitted,

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Version with markings to show changes made

The application has been amended as follows:

In the Claims:

8. (Once amended) A method as claimed in [any of claims 1-7]claim 1, wherein the cytoplast donor is derived from any non-human mammalian species, but preferably from mouse, rat, rabbit, sheep, goat, pig, or most preferably, cow.

9. (Once amended) A method as claimed in [any of claims 1-8]claim 1, wherein fusion between cytoplast and karyoplast includes one of the following methods: electrical fusion, chemical fusion (i.e., polyethylene glycol or high pH-low osmolarity, virus-mediated fusion (i.e., Sendai virus), liposomes, or fusion mediated by cell surface proteins (i.e., hernaglutinins).

12. (Once amended) A method according to [any of claims 1-11]claim 1, wherein the cytoplasts are prepared from in vivo or in vitro produced oocytes.

14. (Once amended) A method according to [any of claims 1-13]claim 1, wherein the donor nucleus is from an embryonic, fetal, or adult cell/karyoplast.

18. (Once amended) A method according to [claims 14-17]claim 14, wherein the donor nucleus is from a human cell.

19. (Once amended) A method as claimed in [any of claims 1-17]claim 1, wherein the donor nucleus is from a cow or bull, pig, sheep, goat, camel, waterbuffalo, primate, rodent, or lagomorph.

20. (Once amended) A method as claimed in [any of claims 1-19]claim 1, in which the donor nucleus has been genetically modified.

21. (Once amended) A method according to claim 20, wherein the cell used to provide the donor nucleus has been genetically modified[, such that the resultant hybrid cell (produced according to claim 1) provides a means] to cure or treat animal or human disease.

23. (Once amended) A method as claimed in [any of claims 1-22]claim 1, in which the mitochondria of the donor cytoplast is made replication incompetent (i.e., incubation with EtBr or any other inhibitor of mitochondrial DNA replication).

25. (Once amended) A method as claimed in [any of claims 1-24]claim 1, wherein mitochondria derived from the same species (or most preferred, from the same animal or individual) as the nuclear donor, are used to supplement the mitochondria present in the hybrid cell.

31. (Once amended) A method as claimed in [any of claims 1-30]claim1, wherein already-established populations of hybrid-derived cells (HDCs), are cultured in the presence

of compounds or factors known to induce gene transcription, as a means to assist the HDC genome in activation of gene transcription.

36. (Once amended) A method as claimed in [any of claims 1-35]claim 1, wherein already established populations of HDCs are removed from culture conditions intended to prevent differentiation [(according to claims 33-35)], and are induced to differentiate, by culture in the presence of chemicals and factors known to induce differentiation of cells to become specific lineages.

43. (Once amended) A method according to claim 35, wherein HDCs, or cells subsequently derived from HDCs [(according to claims 36-42)], are transfected with genes encoding specific gene activators or transcription factors (i.e., Myo D, or PPAR gamma, or C/EBP alpha), as an alternative means of inducing lineage-specific differentiation.

44. (Once amended) A method according to [claims 1-43]claim 1, wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer.

45. (Once amended) A method according to [claims 1-43]claim 1, wherein the HDCs are used as donor cells to produce chimeric organisms.